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PALEONTOLOGY.—*Two new corals from the Avenal formation (Eocene) of California.*¹ JOHN W. WELLS, Ohio State University. (Communicated by JOHN B. REESIDE, JR.)

The two new species of solitary corals described below were collected by Dr. Ralph Stewart, of the United States Geological Survey, who kindly turned them over to the writer for description. They are particularly interesting because of their close relationships with Eocene corals of the Gulf Coastal Plain and the Antillean regions.

Family CALAMOPHYLLIIDAE
 Genus ANTILLOSERIS Vaughan, 1905

Antilloseris? vaughani, n. sp.

Figs. 1, 2

Corallum solitary, turbinate, flaring rapidly from a subcylindrical base. Calice circular, shallow. Corallite wall synapticulothecal, thickened to a septotheca basally, irregularly perforate near calicular margin, nonepithecate, costate. Costae corresponding to all septa, equal, crispate or finely granulose laterally and on margins. Septa very numerous, in six systems, probably with six complete cycles and part of the seventh (about 250 septa in holotype). Septa thin, mostly imperforate and laminar, except those of the first two cycles which are relatively thick and laterally and basally subspinose, with inner ends free and thickened. Synapticulae rare except in mural region. Endotheca and exotheca absent. Columella wholly absent.

Dimensions of holotype.—Diameter of calice, 20 mm; height of corallum, 7 mm; diameter of corallum 7 mm below calice, 7 mm.

Holotype.—U.S.N.M. no. 498697.

Type locality.—U. S. Geological Survey locality 14482; California, Kettleman Plain quadrangle, T. 23 S., R. 17 E., sec. 35, 400 feet south of north boundary and 2,110 feet east of west boundary of section, near Little Tar Spring. Avenal formation, near Domengine horizon.

Remarks.—The agaricid nature of this coral is shown by the thin, slightly and irregularly perforated septa and by the synapticulothecal wall. The absence of any dissepiments, even basally, and of any trace of columella further indicates a generic assignment in or very close to *Antilloseris*, a genus confined to the Eocene and heretofore found only in the Antillean region. In all the described species² of *Antilloseris*, however, the corallum is more or less

¹ Received April 10, 1940.

² DUNCAN, P. M. Quart. Journ. Geol. Soc. London 29: 558-560, pls. 21, 22. 1873. VAUGHAN, T. W. Bull. Mus. Comp. Zool. 34: 245-246, pl. 40. 1899. In both these papers the species included by Vaughan in *Antilloseris* in 1905 are described as *Turbino-seris*.

compressed and tapers basally to a very small point of attachment, and since the present specimen is not compressed and apparently possessed a broad base of attachment, the reference to this genus is not positive.

Family FUNGIIDAE

Genus DISCOTROCHUS Edwards and Haime, 1848

Discotrochus californicus, n. sp.

Figs. 3-5

Corallum solitary, depressed-cupoloid in shape, with flat, circular base with faint scar of very early fixation. Corallite wall septothecal, thick, solid, horizontal, nonepithecate, costate. Costae corresponding to all septa, alternating regularly in size, obsolescent towards center of base. Those corresponding to septa of lower cycles larger, subacute with a few stout granulations on edges. Septa 36 in number, in six systems, imperforate, highly exsert, outer margins vertical, inner ones gently convex to the circular central fossette, laterally ridged or granulated perpendicularly to margins which are peripherally crossed by transverse denticulations where opposing ridges meet over margins. Septa of the fourth cycle not developed in "dorsal"

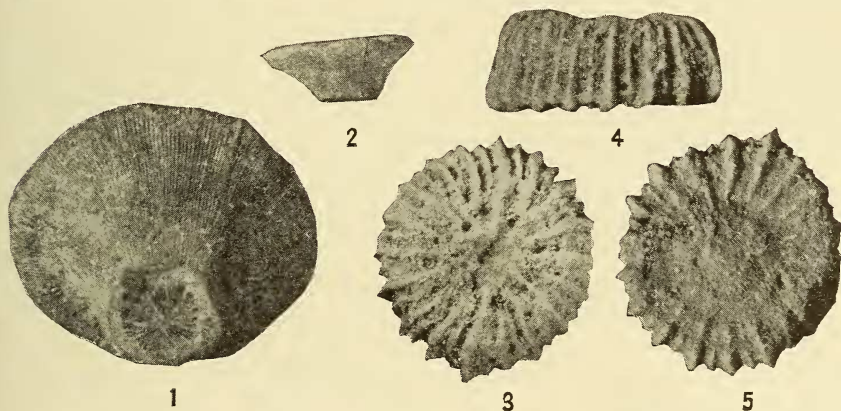


Fig. 1.—*Antilloseris? vaughani*, n. sp., holotype; oblique basal view, showing polished section of base (note absence of columella and dissepiments), $\times 2$. Fig. 2.—Same, lateral view, $\times 1$. Fig. 3.—*Discotrochus californicus*, n. sp., holotype, view of calice, $\times 5$. Fig. 4.—Same, lateral view, $\times 5$. Fig. 5.—Same, basal view, $\times 5$.

half of each of the six systems. Columella trabecular, small, extending upward about half the thickness of the corallum.

Dimensions of holotype.—Diameter of corallum at base, 6 mm; height of corallum, 2.5 mm.

Dimensions of paratypes.—

	(1)	(2)	(3)	(4)	(5)
Diameter of corallum.....	6.5	6.2	5.75	5.5	5.5 mm.
Height of corallum.....	3.0	2.0	2.4	2.75	2.5 mm.

Paratype 2 is much worn.

Holotype.—U.S.N.M. no. 498698.

Paratypes.—U.S.N.M. no. 498699, five specimens.

Type locality.—Same as for *Antilloseris? vaughani*.

Paratype locality.—U. S. Geological Survey locality 14482a. Same horizon as type locality but on next ridge to east of type locality.

Remarks.—This species is based upon a holotype (the first collected) and five paratypes from a nearby locality. All are in a fair state of preservation

and show the characters of *Discotrochus*, a genus associated by most authors with the Caryophylliinae. Recent study of the type species, *D. orbignianus* Edwards and Haime,³ by Dr. T. W. Vaughan and the writer, however, indicates that *Discotrochus* is scarcely distinguishable from the fungid *Cycloseris* except for the rarity of synapticalae, smaller number of septa, and thicker basal wall in *Discotrochus*. The present species is distinguished from the genotype, and only other American species, *D. orbignianus*, of the lower Claibornian (Eocene) of the Gulf Coastal Plain, by the different proportions of the corallum. The ratio of height to diameter of *D. orbignianus* is 1:4, in *D. californicus*, 1:2.5. The latter is therefore relatively much higher than *D. orbignianus*. Further, *D. orbignianus* usually possesses four complete cycles of septa, whereas all the specimens of *D. californicus* examined show the fourth cycle only half developed in each of the six systems.

PALEONTOLOGY.—A new *Gisortia*.¹ WILLIAM M. INGRAM, Cornell University. (Communicated by JULIA A. GARDNER.)

The *Gisortia* described here, from the Capay stage, Llajas formation, lower zone, Simi Valley, Ventura County, Calif., is the only species belonging to this genus thus far reported from North America. It is one of the species of mollusks used by Clark and Vokes (1936) for intercontinental correlation of west-coast Eocene and European Eocene faunas. These workers have compared it to *Gisortia tuberculosa* (Duclos) from the Ypresian stage, Paris Basin, France. They state, "The California specimen [*Gisortia clarki* Ingram] is somewhat more globose and the outer lip is not as prominently reflected posteriorly as in the Paris Basin form [*Gisortia tuberculosa* (Duclos)]. The evidence indicates that in both species the spire was submerged beneath a calulus wash."²

Gisortia clarki, n. sp.

Shell globose, heavy; posterior canal prominently produced, and covered dorsally by a shelf 8.5 mm broad on the outer side; dorsally on the columellar side this shelf narrows to a width of approximately 3 mm and slopes abruptly toward the ventral shell surface; posterior canal produced 11 mm; spire almost totally submerged beneath outer enamel, the spire peak projecting 3.5 mm from the body of the shell; a flattened surface persists to the left of the posterior canal; maximum width of posterior canal is 14 mm; estimated maximum width of anterior canal about 16 mm, a shelf with a maximum width of 5 mm occupies the columellar side of the anterior canal—this shelf is angled dorsally from the shell base; the anterior canal is apparently compressed dorsoventrally at its outermost extremity; outer and columellar lips of aperture broadly rounded; aperture curves to the left anteriorly and posteriorly.

³ VAUGHAN, T. W. U. S. Geol. Surv. Mon. 39: 78–80, pl. 5, figs. 13–19b. 1900.

¹ Received February 2, 1940.

² CLARK, B. L., and VOKES, H. E. *Summary of marine Eocene sequence of western North America.* Bull. Geol. Soc. Amer. 47: 851–878. 1936.